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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,138	10/30/2003	Jung Yun Do	51876P404	3451

8791 7590 07/11/2006

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EXAMINER

KUGEL, TIMOTHY J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/699,138

Applicant(s)

DO ET AL.

Examiner

Timothy J. Kugel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-6 are pending as amended on 22 May 2006.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Applicant's amendment, filed 22 May 2006, with respect to the clarification of the Markush-type group in claim 3 has been fully considered and is corrective.

The rejection of claim 3 under 35 USC 112 2nd paragraph has been withdrawn.

Claim Rejections - 35 USC § 102 and/or 35 USC § 103

4. Claims 1-3 stand rejected under 35 U.S.C. §102(a) as being anticipated by Synthesis and Optical properties, Photonics Conference 2002, October 30-November 1 2002, 497-498 (Do 2002 hereinafter).

Do 2002 teaches a non-linear optical material comprising the elected polymer having the dendrimer structure shown in Formula 21 of the instant claim 2, with the elected organic chromophore identified as AIDC in Table 1 of the instant claim 3 coupled by ether linkage at the site of the terminal hydroxy groups of said polymer (Formula TDAIDC101 Page 498).

Regarding the amended limitation to claim 1, "the dendrimer structure having symmetry along three dimensions", since Do 2002 teaches the same composition as claimed, the symmetry of the Do 2002 dendrimer would inherently be the same as claimed.

5. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,252,025 (Wang '025).

Wang '025 teaches a nonlinear optical material comprising a dendridic polymer with multiple active end groups (Column 3 Lines 48-62) including chromophores (Column 1 Lines 26-55) and non-chromophores including phenyl and alkyl groups (Column 6 Lines 9-33).

6. Claim 6 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wang '025 as evidenced by Tomalia et al. "Dendridic macromolecules" in AccessScience@McGraw-Hill, <http://www.accessscience.com>, DOI 10.1036/1097-8542.YB980185, April 10, 2000 (Tomalia hereinafter).

Wang teaches a nonlinear optical material comprising a dendridic polymer with multiple active end groups including chromophores and non-chromophores including phenyl and alkyl groups as detailed above. Tomalia shows that dendrimers are three-dimensional in architecture (Page 1 ¶2).

Since Wang '205 teaches the same composition as claimed, one of ordinary skill in the art at the time the invention was made would have expected that the ability of the active end groups to induce thermal and optical chemical reactions of the Wang '025 composition would inherently be the same as claimed.

Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103. "There is nothing inconsistent in concurrent

rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977).

Response to Arguments

7. The declaration under 37 CFR 1.132 filed 22 May 2006 is insufficient to overcome the rejection of claims 1-3 based upon Do 2002 as set forth in the last Office action because: Do 2002 apparently has more than one author listed. Applicant is advised to either supply a certified English translation of Do 2002 showing that Jung Yun Do is the sole author of the reference; a declaration by Jung Yun Do declaring sole authorship of Do 2002; or a declaration from the other authors of Do 2002 declaring that Jung Yun Do is the inventor of the pertinent teaching of the reference.

8. Applicant's arguments filed 22 May 2006 have been fully considered but they are not persuasive.

Applicant argues that Wang '205 fails to teach all of the limitations of the instant claims since Wang '205 teaches dendrimers as background information and teaches against use of dendrimers; however, even if Wang '205 teaches a preferred non-dendrimer composition, the teaching of dendrimers is still made and therefore Wang '205 anticipates the instant claims.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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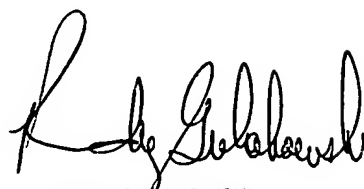
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached 6:00 AM – 4:30 PM Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJK
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RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700